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I, Leila Rouhi, declare as follows:

I am Vice President, Trust and Privacy, at Defendant Amazon.com, Inc. I have worked for Amazon in this role since April 2022. I am authorized to make this declaration on Amazon's behalf. I make this declaration based on personal knowledge, information, and records that Amazon keeps in the ordinary course of business. Based on my job responsibilities and my review of Amazon's business records, I am familiar with the information that I discuss in this declaration and, if called upon to do so, I could and would testify competently as to the matters stated here.

ALEXA PRIVACY AND SECURITY I.

- 2. From the beginning, Amazon designed and built the Alexa service and the Echo family of devices with multiple layers of privacy protections and controls.
- 3. Amazon provides numerous educational resources to explain how Alexa works and how to use its privacy features. Many such resources, including explanations of Alexa features, can be found on Amazon's website at www.amazon.com/alexaprivacy.

Alexa's Privacy Features And Design A.

- 4. There are numerous features on the Echo device itself that provide users with transparency and protect their privacy.
- 5. First, when an Alexa-enabled Echo device detects the wake word, the light ring on the Echo will turn blue, or on an Echo Show, a blue bar will appear. A video demonstrating the operation of the light ring indicator is attached as Exhibit D. Customers can also set an optional tone to chime when a device detects the wake word. If music or other audio is playing on an Alexa-enabled speaker when Alexa detects the wake word, the audio also becomes quieter. All of this alerts the user that Alexa has been activated and helps prevent the Alexa service from receiving audio that is not intended for it.
- 6. The Alexa service also uses "end-pointing" to determine when a user's command has ended. This allows Alexa to be responsive, while also helping to avoid streaming audio to the cloud that is not intended for Alexa. As a practical matter, this means that typical commands and queries transmitted to Alexa are short (usually a few seconds). The blue light ring or bar turns off

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when the Alexa interaction is over. Customers can also turn on an optional feature to have a tone chime when a recording ends, so that they can hear when their audio has stopped streaming.

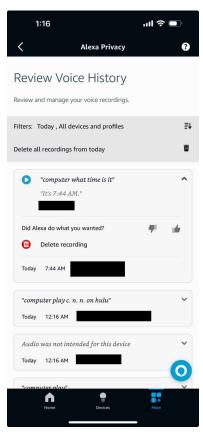
- 7. If a user frequently uses a word that is similar to the "Alexa" wake word, they can change the wake word to "Computer," "Amazon," "Ziggy," or "Echo" to reduce the likelihood of unintentionally activating Alexa. This change can be made in the Alexa app (Settings > Device Settings > [Select device] > Wake Word) or by giving a voice command to do so.
- 8. Users can also turn device microphones off completely at any time by pressing the microphone on/off button on the device. On Echo devices, when the button is pressed to turn the microphones off, the device's microphones are electrically disconnected and a dedicated red LED on the microphone on/off button is illuminated to indicate that the microphones are off. As a safeguard, Amazon specifically designed the circuitry of Echo devices so that power can only be provided either to this dedicated red LED or to the device microphones, but not to both at the same time. As a result, if the dedicated red LED is illuminated, the microphones are off, and the device literally cannot detect the wake word or stream audio to the cloud. A video demonstrating the operation of microphone on/off button is attached as **Exhibit E**.
- 9. Some Alexa-enabled devices, like the Fire TV stick, have push-to-talk only functions, and only transmit audio to the cloud when a user pushes the action button.
- 10. The Alexa service also uses algorithms to differentiate between commands spoken by users and background noise, such as sound from a TV or radio, to reduce the chance of unintentional activations.
- 11. In sum, Alexa devices, and the Alexa service, are not designed or intended to record or transmit private conversations or private communications between people. Instead, through all of these features, Alexa devices are designed to transmit only commands and queries that were intended for Alexa, and *not* to record or transmit any private conversations. Moreover, Amazon continuously works to improve the Alexa service so that customers experience fewer false wakes and Amazon receives less audio that is not intended for Alexa.
- 12. When audio is being streamed to the cloud, the Alexa service is designed so that communication between an Alexa-enabled device and the Alexa cloud is encrypted and protected,

using TLS 1.2, an industry standard security protocol.

- 13. Once audio is received by the Alexa service in the cloud, it is processed, and both a transcript of the user's command and the audio recording are securely stored in the cloud.
- 14. If a user does not understand why Alexa activated, they can say, "Alexa, why did you do that?" and Alexa will provide an explanation of what happened. Users can say "Alexa, delete everything I said today" or "Alexa, delete what I just said." Users can also review and delete these interactions, like all Alexa interactions, in their voice history in the Alexa app or on the website.

B. Review And Deletion Of Recordings

- 15. By default, Amazon saves voice recordings associated with a user's account to provide customers with transparency about all the audio that is sent to Amazon whenever Alexa is activated.
- 16. Customers can view transcripts and listen to specific voice recordings associated with their accounts by going to "Review Voice History" in Alexa Privacy, under Settings in the Alexa app or on the website, as shown in the example of the current user interface below:



On the "Review Voice History" page, customers can delete specific voice 17.

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In some instances, instead of the transcript of the voice recording, an entry might say "Audio was not intended for Alexa." But this does not necessarily mean that the associated voice recording is a "false wake," that the recording does not include the wake word, or that the customer did not intend to activate Alexa. Instead, this label appears when the cloud-side verification models are unable to detect the wake word. As noted, cloud-side verification is probabilistic and is not perfectly accurate. Thus, a voice recording may be labeled as "Audio was not intended for Alexa" even if a user actually said the wake word and intended to activate the Alexa service.

recordings by tapping on delete button. A video demonstrating how to review and delete recordings manually from the Alexa app is attached as **Exhibit F**; and a video demonstrating how to configure a device to automatically delete recordings from the Alexa app is attached as **Exhibit G.** Since 2019, users have had the option to delete recordings by voice by using the voice commands "Alexa, delete everything I said today" or "Alexa, delete what I just said." A compilation of videos demonstrating how to use the Alexa, delete everything I said today" or "Alexa, delete what I just said" features is attached as **Exhibit H.** As of 2020, users have also had the option to delete all voice recordings at once using the voice command "Alexa, delete everything I've ever said." Users can enable auto-deletion of all voice recordings that are older than three months or 18 months. Users can also delete all voice recordings associated with their account for each of their Alexa-enabled devices by selecting the applicable device at "Manage Your Content and Devices" page on Amazon's website, or within "Review Voice History" on the Alexa app.

18. Users can also select not to retain voice recordings at all.

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5	C. Limited Use Of Record
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7	current version of the
8	https://www.amazon.com/gp/help/cust
9	Earlier versions are compiled and attac
10	21. Amazon does not sell v
11	voice recordings to respond to users'
12	make the service better for customers.
13	22. Amazon improves the A
14	Supervised machine learning is a comn
15	on a labeled dataset to learn the mapp
16	on new, unseen data. The process is
17	preprocessing, model selection, training
18	throughout this process, for maintaining
19	machine learning systems over time, ar
20	23. Alexa is a computer sy
21	natural language, across an unlimited
22	individual speech patterns. To make the
23	to ensure that the Alexa service response
24	technology.
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dings To Improve The Alexa Service

- e recordings in accordance with its Privacy Notice. The Privacy Notice found he here: omer/display.html?nodeId=GX7NJQ4ZB8MHFRNJ.
- thed as exhibits to this declaration.
- roice recordings to third parties. Instead, Amazon uses the Alexa commands and requests, and to improve Alexa and
- Alexa service using supervised machine learning techniques. non approach to machine learning, where a model is trained ing from inputs to outputs, enabling it to make predictions iterative and involves several key steps: data collection, ng, evaluation, and prediction. Human review is crucial ng the effectiveness, fairness, reliability, and compliance of nd thus improving the Alexa service for the benefit of users.
- stem that enables users to make requests using their own d array of environments, accents, regional dialects, and his process work, Amazon conducts limited human review onds accurately to user inputs, and to improve the Alexa

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25. Customers can opt out of having their recordings manually reviewed, by simply changing a setting in the Alexa app.

II. VOICE PROFILES

26. In October 2017, Amazon launched "Voice Profiles," a feature that lets a user personalize the Alexa service by teaching the service the user's first name and voice, or a user's "Voice ID." Members of an Alexa household can choose whether to set up a Voice Profile or not; the service will operate without it. When the feature is enabled, Voice Profiles allows the Alexa service to distinguish between speakers in a household and provide, in some circumstances, individualized experiences for Alexa users. For example, in response to a command to play music, the Alexa service may play the style of music that the user typically selects. When a user creates a Voice Profile, that profile may be also associated with additional services. For example, a Voice Profile may be associated with a user's Spotify account so that they can access their preferred music.



- 31. Voice Profiles allow a user to teach the Alexa service to recognize their voice. This process requires additional consent. To activate this feature, a user can ask the Alexa service to "learn my voice," and then proceed through the enrollment process, which requires the user to repeat four training phrases spoken or displayed by the Alexa device. Before April 2019, this process required a user to speak 10 training phrases to the Alexa device. Alternatively, users can also activate the Voice Profiles feature on the Alexa app. A true and correct copy of an internal primer and schematic depicting the speaker identification system from 2019 is attached as **Exhibit I** (produced as AMZ_GARNER_02947160). Exhibit I reflects confidential and commercially sensitive internal information about the design and development of Alexa product features. Amazon would suffer competitive harm if this information were made available to the public where competitors could obtain the information. Amazon does not publicly disclose this information and takes measures to ensure its confidentiality.
- 32. For a limited time, starting in May 2018, Amazon also provided some minimal personalization through a functionality called "Automatic Voice Recognition" ("AVR"). This feature tried to distinguish between unnamed speakers within a household, mainly to differentiate between music preferences of different household members.

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34. Even within a household, Amazon's speaker identification functionalities are based on probabilistic models and are imperfect. Various factors contribute to a higher or lower quality Voice Profile. For instance, if, when asking Alexa to "learn my voice," the user speaks in an unnatural manner, deviations in voice characteristics might be picked up by the system, resulting in degraded accuracy. A user might also inaccurately repeat the learning phrases, resulting in degraded accuracy. Poor quality audio in the utterances used to create a profile will also contribute to degraded accuracy.

19 to degraded accuracy.

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1	is attached as Exhibit
2	J (produced as AMZ_GARNER_00385526).
3	36.
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8	is attached as Exhibit
9	K (produced as AMZ_GARNER_03150010). Exhibits J and K reflect confidential and
10	commercially sensitive internal metrics about Alexa functionality and product features. Amazon
11	would suffer competitive harm if this information were made available to the public where
12	competitors could obtain the information. Amazon does not publicly disclose this information and
13	takes measures to ensure its confidentiality.
14	37. Finally, both Voice Profiles and AVR require a recording to be created in order to
15	work. These speaker identification functionalities rely on some underlying utterance to identify a
16	speaker by comparison to other utterances from the household. The Speaker ID system cannot
17	operate without an utterance.
18	38. I understand that in this litigation, Plaintiffs have suggested that Amazon could
19	identify potential unregistered users of the Alexa service because "Amazon has a
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21	Dkt 255 at 18. That is not true. An IP address is an identifier assigned to an Internet-connected
22	Alexa-enabled device; the IP address does not change when different users speak. Amazon also
23	has no way to identify any user (even registrants) with certainty, and certainly cannot identify
24	people with no registered Voice Profile or device.
25	III. AMAZON TERMS
26	39. Alexa customers agree to various Amazon terms and conditions, including the
27	Amazon Conditions of Use ("COUs"), the Amazon Privacy Notice ("Privacy Notice"), the Alexa

Terms of Use ("Alexa Terms"), and Alexa Device Terms, in various ways.

1 A. **Amazon Conditions of Use** 2 40. A true and correct copy of the COUs, effective 12/5/2012, and produced as AMZ GARNER 00035884, is attached as Exhibit L1. 3 4 41. A true and correct copy of the COUs, effective 06/22/2015, and produced as 5 AMZ GARNER 00036154, is attached as **Exhibit L2**. 42. A true and correct copy of the COUs, effective 02/12/2016, and produced as 6 7 AMZ GARNER 00036261, is attached as **Exhibit L3**. 8 43. A true and correct copy of the COUs, effective 05/16/2016, and produced as 9 AMZ GARNER 00036297, is attached as Exhibit L4. 44. A true and correct copy of the COUs, effective 06/21/2016, and produced as 10 11 AMZ GARNER 00036309, is attached as **Exhibit L5**. 12 45. A true and correct copy of the COUs, effective 05/30/2017, and produced as AMZ GARNER 00036537, is attached as **Exhibit L6**. 13 14 46. A true and correct copy of the COUs, effective 10/03/2017, and produced as 15 AMZ GARNER 00036573, is attached as **Exhibit L7**. A true and correct copy of the COUs, effective 05/21/2018, and produced as 16 47. AMZ GARNER 00036605, is attached as Exhibit L8. 17 48. A true and correct copy of the COUs, effective 05/03/2021, and produced as 18 AMZ GARNER 00038510, is attached as **Exhibit L9**. Alexa Terms 20 В. 49. A true and correct copy of the Alexa Terms, effective 06/25/2015, and produced as 21 22 AMZ GARNER 00000099 is June 25, 2015, is attached as **Exhibit M1**. 23 50. A true and correct copy of the Alexa Terms, effective 08/19/2015, and produced as AMZ GARNER 00000190, is attached as **Exhibit M2**. 24 25 51. A true and correct copy of the Alexa Terms, effective 02/02/2016, and produced as AMZ GARNER 00041080, is attached as **Exhibit M3**. 27 52. A true and correct copy of the Alexa Terms, effective 10/24/2017, and produced as 28 AMZ GARNER 00041096, is attached as **Exhibit M4**.

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1	53. A true and correct copy of the Alexa Terms, effective 12/06/2017, and produced a
2	AMZ_GARNER_00041132, is attached as Exhibit M5 .
3	54. A true and correct copy of the Alexa Terms, effective 03/28/2018, and produced a
4	AMZ_GARNER_00041216, is attached as Exhibit M6 .
5	55. A true and correct copy of the Alexa Terms, effective 05/17/2018, and produced a
6	AMZ_GARNER_00041260, is attached as Exhibit M7 .
7	56. A true and correct copy of the Alexa Terms, effective 11/27/2018, and produced a
8	AMZ_GARNER_00041288, is attached as Exhibit M8 .
9	57. A true and correct copy of the Alexa Terms, effective 06/14/2019, and produced a
10	AMZ_GARNER_00041320, is attached as Exhibit M9 .
11	58. A true and correct copy of the Alexa Terms, effective 01/01/2020, and produced a
12	AMZ_GARNER_00041348, is attached as Exhibit M10 .
13	59. A true and correct copy of the Alexa Terms, effective 04/28/2020, and produced a
ا4	AMZ_GARNER_00041376, is attached as Exhibit M11 .
15	60. A true and correct copy of the Alexa Terms, effective 06/30/2020, and produced a
16	AMZ_GARNER_00041390, is attached as Exhibit M12 .
ا7	61. A true and correct copy of the Alexa Terms, effective 12/02/2020, and produced a
18	AMZ_GARNER_00041461, is attached as Exhibit M13 .
19	62. A true and correct copy of the Alexa Terms, effective 03/25/2021, and produced a
20	AMZ_GARNER_00041481, is attached as Exhibit M14 .
21	63. A true and correct copy of the Alexa Terms, effective 04/30/2021, and produced a
22	AMZ_GARNER_00041486, is attached as Exhibit M15 .
23	C. Amazon Privacy Notice
24	64. A true and correct copy of the Privacy Notice, effective 03/03/2014, and produced
25	as AMZ_GARNER_00036816, is attached as Exhibit N1.
26	65. A true and correct copy of the Privacy Notice, effective 09/30/2016, and produced
27	as AMZ_GARNER_00037086, is attached as Exhibit N2 .
28	66. A true and correct copy of the Privacy Notice, effective 07/06/2017, and produced

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as AMZ_GARNER_00037458, is attached as **Exhibit N3**.

- 67. A true and correct copy of the Privacy Notice, effective 08/29/2017, and produced as AMZ_GARNER_00037528, is attached as **Exhibit N4**.
- 68. A true and correct copy of the Privacy Notice, effective 01/01/2020, and produced as AMZ GARNER 00040093, is attached as **Exhibit N5**.
- 69. A true and correct copy of the Privacy Notice, effective 02/12/2021, and produced as AMZ GARNER 00040883, is attached as **Exhibit N6**.

D. Alexa FAQs, Privacy Hub, And Other Disclosures About Alexa Recordings

70. Since Alexa's launch in November 2014, Amazon has maintained and updated Alexa FAQs (frequently asked questions), a public, online resource that provides information about Alexa. The Alexa FAQs have always disclosed Alexa's creation and retention of voice recordings, the purpose underlying the recordings (to improve the service), and the fact that users can review and delete their recordings at will. Examples of relevant FAQs are:

"Is Alexa recording all my conversations?"

"What happens when I speak to Alexa?"

"Can I review and delete my voice recordings?"

"How are my voice recordings used?"

- 71. During initial registration for the Alexa service, users are shown a short "Welcome Screen," at the top of which Amazon discloses that the Alexa service "processes and retains audio, interactions, and other data in the cloud to provide and improve our services." This screen is unavoidable during registration: the user must click or tap on a link or button at the bottom of the page to continue. The screen also contains a link to more information about the voice history feature and to various terms to which a user must agree. The First Amended Consolidated Complaint in this case (Dkt. 59 at ¶ 100) contains a screenshot of the Alexa Welcome Screen.
- 72. The Alexa Terms disclose that Amazon "processes and retains your Alexa Interactions such as your voice inputs ... in the cloud," and explain "how to delete voice recordings associated with your account," with links to relevant information. Links to the TOU appear twice during initial registration of an Echo device, and they are always available to the public.

In addition to the FAQs, Amazon maintains the Alexa Privacy Hub, a website

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available to anyone. This resource discloses and describes the Alexa voice recording feature, user control over that feature, how Alexa devices work as it relates to privacy and recording, and available privacy options and protections. It also contains several videos demonstrating voice recording, deletion, review, and related features. A true and correct copy of historical screenshots of the Alexa Privacy Hub from May 2019 through April 2022 (produced as AMZ GARNER 00047903) is attached as **Exhibit O**. Amazon also regularly posts YouTube videos about Alexa, with hundreds of videos 74. on its @AmazonAlexa channel, including many about privacy. A true and correct copy of one called "Alexa Privacy: How Does Alexa Work" such video. AMZ GARNER 00048025) is attached as Exhibit P. A true and correct copy of another video,

videos that showcase different Alexa privacy features, including:

- a. "Alexa Privacy How-To: Manage Your Alexa Voice Recordings," (produced as AMZ GARNER 00047998) a true and correct copy of which is attached as Exhibit R.
- b. "Alexa Privacy How-To: Wake Word," (produced as AMZ GARNER 00047999) a true and correct copy of which is attached as Exhibit S.
- 75. A true and correct copy of the Alexa FAQs that appeared on 11/09/2014, and produced as AMZ GARNER 00034280, is attached as Exhibit T1.

which provides an overview of different Alexa privacy features, including the wake word,

microphone/camera controls, indicator, and control over voice recordings (produced as

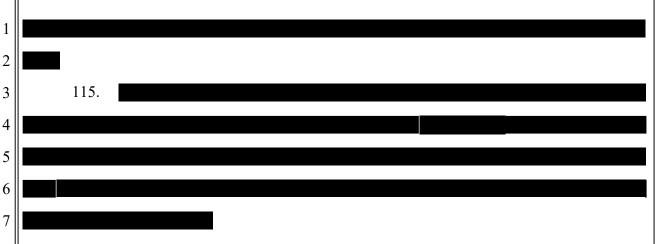
AMZ GARNER 00048003) is attached as Exhibit Q. Amazon has also created several how-to

- 76. A true and correct copy of the Alexa FAQs that appeared on 12/10/2014, and produced as AMZ_GARNER_00034308, is attached as Exhibit T2.
- 77. A true and correct copy of the Alexa FAQs that appeared on 01/21/2015, and produced as AMZ GARNER 00034342, is attached as **Exhibit T3**.

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78. A true and correct copy of the Alexa FAQs that appeared on 05/11/2015, and

(produced



116. Exhibits V through Z all reflect confidential and commercially sensitive financial information about Amazon, Alexa-enabled devices, and the Alexa service, including revenues and operating expenses. Amazon considers this information highly confidential, and it would suffer competitive harm if its financial information about the Alexa were made available to the public, where competitors could obtain the information. Amazon does not publicly disclose this information and takes measures to ensure its confidentiality.

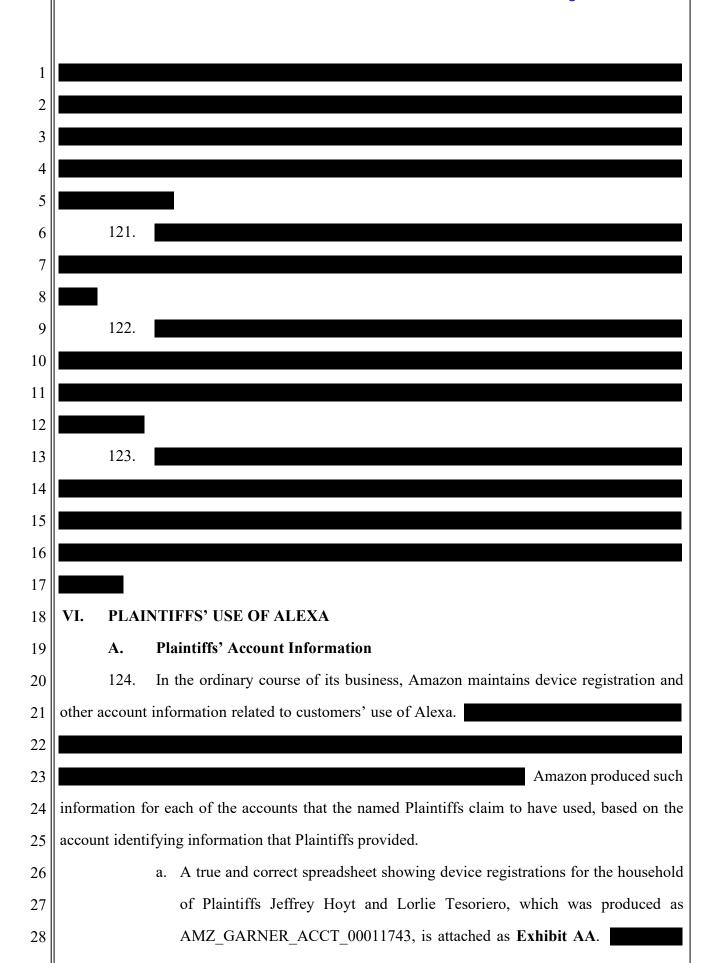


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b.	A true and correct spreadsheet showing device registrations for Plaintiff Kae							
	Garner's	personal	Amazon	account,	which	was	produced	as
	AMZ_GARNER_ACCT_00019346, is attached as Exhibit BB . And a tru							anc
	correct excerpt of account information							

which was produced as AMZ_GARNER_ACCT_00019476, is attached as **Exhibit CC**. I understand that Ms. Garner claims she is not a registered Alexa user.

- c. A true and correct spreadsheet showing device registrations for the household of Plaintiffs Ronald and Selena Johnson, which was produced as AMZ_GARNER_ACCT_00021310, is attached as Exhibit DD.
- d. True and correct spreadsheets showing device registrations for the household of Plaintiffs Michael and Diane McNealy, which were produced as AMZ_GARNER_ACCT_00000146 and AMZ_GARNER_ACCT_00019724, are attached as Exhibit EE.
- e. A true and correct spreadsheet showing device registrations for the household of Plaintiff Ricky Babani, which was produced as AMZ_GARNER_ACCT_00010700, is attached as **Exhibit FF**.
- f. A true and correct spreadsheet showing device registrations of Plaintiff Jodi Brust, which was produced as AMZ_GARNER_ACCT_00013156, is attached as Exhibit GG.
- g. A true and correct spreadsheet showing device registrations for the household of Plaintiff Caron Watkins, which was produced as AMZ GARNER ACCT 00000741, is attached as Exhibit HH.

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